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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,616	11/12/2003	Bernd Glunk	1-73551	5869

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MACMILLAN, SOBANSKI & TODD, LLC
ONE MARITIME PLAZA-FOURTH FLOOR
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TOLEDO, OH 43604

EXAMINER

DESAI, ANISH P

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/706,616	Applicant(s) GLUNK ET AL.	
	Examiner Anish Desai	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites, "plastic matrix" and "present". It is unclear as to what applicant means by "plastic matrix" and "present". It is respectfully requested that the applicant clarify what it means by "plastic matrix". The examiner is interpreting plastic matrix as a polymer resin or binder.
2. Claims 3, 10, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 3, 10, and 15 recite, "present". It is unclear as to what applicant means by "present".
3. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 5 recites "...the fibres are formed as a fibre mat with the polyolefin as one of a powder and fibrous additive". It is not clear what the applicant means by "fibres are formed with a fibre mat with the polyolefin powder as one of a powder and fibrous additive". The examiner is interpreting aforementioned recitation as a fiber mat that contains the polyolefin powder additive.

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4. Claims 12 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 and 20 recite, "the roof liner [1] presents integrated energy absorption elements". It is unclear as to what applicant means by "presents integrated absorption elements". For the purpose of the prior art search, the examiner is interpreting "presents integrated absorption elements" as a roof liner that can function as vibration and/or impact absorbing entity. Additionally, claim 20 recites, "during the shaping of the roof liner". It is unclear as to what applicant means by "shaping of the roof liner".

5. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 13 recites "...one step process". The claim is vague and indefinite because it does not clearly set forth specific process steps but merely recites "one step process". It is unclear as to what applicant means by "one step process".

6. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 14 recites the limitation "bonding agent" on Page 5. There is insufficient antecedent basis for this limitation in the claim. Additionally, applicant has claimed "thermoplastic emulsion" in claim 14, it is unclear as to what applicant means by "thermoplastic emulsion".

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7. Claims 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 18 recites, "adhesive fleece mat". It is unclear as to what applicant means by "fleece mat". The examiner is interpreting "adhesive fleece mat" as adhesive web that can be used to bond two layers.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4,6,8-17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byma et al. (US Patent Application Publication 2001/0037854A1) in view of Spengler (US Patent 6,287,678B1).

9. The invention of Byma et al. is related to a unitary composite headliner for a motor vehicle. Byma et al. teach a headliner 10 comprising a laminate or composite construction including an inner layer 16 sandwiched between two outer or reinforcing layers 18 and 20. A cover member 22 is attached to reinforcing layer 20, and provides an aesthetically pleasing finished surface on the underside of the vehicle roof (Column 1, Paragraph [0016]). Regarding claim 1, the examiner is equating inner layer 16 of Byma et al. as the claimed core layer, layers 18 and 20 as the claimed reinforcement

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layers, and cover member 22 as the claimed decorative layer. Moreover, the reinforcing layers or Byma et al. contain fibers and binder material that are formed of recyclable thermoplastic polymer, including polyester, nylon, polyethylene and/or polypropylene (Column 2, Paragraph [0019]). Note that regarding claims 1 and 2, the binder material of polyethylene and polypropylene is considered as a plastic matrix.

10. Regarding claim 1, although Byma et al. do not explicitly teach non-directional fibers. Byma et al. teach that many modifications and variations of the invention are possible in light of their teachings (Column 3, Paragraph [0028]). Thus, a skilled artisan can obviously use non-directional fibers in the reinforcing layers of Byma et al. Note that the examiner is interpreting non-directional fibers as fibers that are randomly distributed in the reinforcing layers.

11. Byma et al. are silent with respect to teaching the core layer formed of a foam material and polypropylene as the claimed foam material.

12. Spengler teaches a composite structural panels comprising polymer materials as interior trim components in motor vehicles, aircraft, railroad cars, and the like. Such trim components include molded dashboards, interior door panels and inserts, headliners, and the like (Column 1, lines 14-19). Spengler discloses a cover sheet laminated onto a three-layered substrate including a thermoplastic foam core sandwiched between the two composite outer layers. The thermoplastic material of all layers is preferably polypropylene (see Abstract). Thus the foam core layer is made of polypropylene.

Regarding claim 1, the examiner is equating foam core layer of Spengler as claimed core layer. Spengler teaches that due to the air permeable foam core of his invention

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the composite structure achieves very good sound absorbing and sound damping qualities (Column 5, lines 25-30).

13. Regarding claim 1, a skilled artisan would have found it obvious to incorporate polypropylene foam core layer of Spengler as an inner layer of Byma et al. One would be motivated to do this, in order to provide excellent sound absorbing and sound damping qualities to the unitary composite headliner of Byma et al.

14. Regarding claim 2, please see the previously disclosed invention of Byma et al.

15. Regarding claims 3 and 15, the inventions of Byma et al. and Spengler are previously disclosed. Byma et al. are silent with respect to teaching the claimed stretch ratio. The invention of Spengler is previously disclosed, although, Spengler does not explicitly teach the claimed stretch ratio of polypropylene, it is reasonable to presume that the said stretch ratio is present in the invention of Spengler. Support for said presumption is found in use of like materials. For example, the foam material of the applicant is made of polypropylene and the foam core layer of Spengler is made of polypropylene. The burden is upon the applicant to prove otherwise.

16. Regarding claims 4 and 16, in addition to previously disclosed matters of the invention of Byma et al., in one embodiment the headliner 110 includes a stiffening layer 112 and a scrim layer 114 overlaying the reinforcing layer 18. The stiffening layer 112 provides additional rigidity to the headliner 110 and may comprise natural fibers such as jute, knaff, or hemp (Column 2, Paragraph [0021]). Recall that according to Byma et al., many modification and variations of the invention are possible in light of their teachings (Column 3, Paragraph [0028]). Thus, even though Byma et al. do not explicitly teach

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said natural fibers in the reinforcing layers, Byma et al. provide sufficient motivation to a skilled artisan to incorporate natural fibers in the reinforcing layers.

17. Regarding claim 16, note that although Byma et al. do not explicitly teach the claimed natural fibers of sisal, fibers of sisal are an obvious variant of jute, knaff, or hemp, because sisal, jute, knaff, and hemp are all natural fibers.

18. Regarding claim 6, in addition to previously disclosed matters of Byma et al., Byma et al. disclose a binder material and polyester fibers in the reinforcing layers (Column 2, Paragraph [0019]). Note that the examiner is equating binder material of Byma et al. as the claimed bonding agent.

19. Regarding claims 8 and 17, in addition to previously disclosed matters of Byma et al., the inner layer of Byma et al. contains 20-50% fibers (Column 2, Paragraph [0017]). Although, Byma et al. do not explicitly teach the fibrous portion of fibers in the reinforcing layers as claimed, recall that Byma et al. teach that many modifications and variations of the invention are possible (Column 3, Paragraph [0028]). Additionally, Byma et al. teach that fibers can be used as binder material (Column 2, Paragraph [0018]) and reinforcing layers contains 20-50% binder material (Column 2, Paragraph [0019]). Thus, a skilled artisan can obviously use 20-50% of fibers as a binder material in the reinforcing layers of Byma et al.

20. Regarding claim 9, in addition to previously disclosed teachings of Byma et al., the inner layer 16, the reinforcing layers 18 and 20, and the cover member 22 may be individually heated or simultaneously heated to the same or different temperatures (Column 2, Paragraph [0022]). Thus the cover material can be heated itself.

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21. Regarding claims 10, in addition to previously disclosed teachings of Byma et al., the adhesive disclosed in the invention of Byma et al. is used to bond cover member 22 to the reinforcing layer 20 (Column 2, Paragraph [0020]).

22. Regarding claims 11 and 19, in addition to previously disclosed matters of Byma et al., recall that the stiffening layer of Byma et al. is used to provide additional rigidity to headliner and comprises materials such as fiberglass (Column 2, Paragraph [0021]). Moreover, Byma et al. teach that stiffening layer can be sandwiched between any of the layers 16 (inner layer), 18 (reinforcing layer), and 20 (reinforcing layer) (Column 2, Paragraph [0021]). The stiffening layer provides additional rigidity to the headliner (Column 2, Paragraph [0021]). Note that the reinforcing layers of Byma et al. are used to provide rigidity (Column 1, Paragraph [006]). The stiffening layer can also function as an additional reinforcing layer. Thus, the stiffening layer and the reinforcing layer of Byma et al. can be collectively considered as "reinforcing layer". Recall that Byma et al. teach that many modifications and variations of the invention are possible in light of their teachings (Column 3, Paragraph [0028]). Hence, a skilled artisan can obviously incorporate fiberglass of stiffening layer into the reinforcing layer. Note that, fiberglass is glass fibers that are synthetically manufactured.

23. Regarding claims 12 and 20, the inventions of Byma et al. and Spengler are previously disclosed. In addition to previously disclosed matters of Byma et al. the headliner of Byma et al. can function as vibration absorbing entity due to the incorporation of reinforcing layers (see Abstract).

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24. Regarding claim 13, the recitation "one step process" is considered to be a process step. The examiner is not giving any patentable weight to the term "one step process" because the product of Byma et al. in view of Spengler is structurally similar to the applicant's claimed product (i.e. roof liner). For example, recall that Byma et al. disclose a unitary composite headliner with an inner layer that is sandwiched between two reinforcing layers. Spengler discloses a three-layered composite structural panel with a foam core sandwiched between two composite outer layers.

25. Regarding claim 14, in addition to the previously disclosed matters of Byma et al., Byma et al. teach that the binder material of the reinforcing layers is a thermoplastic polymer (Column 2, Paragraph [0019]).

26. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byma et al. (US Patent Application Publication 2001/0037854A1) in view of Spengler (US 6,287,678B1) and further in view of Smith et al. (US Patent 4,948,661).

27. The inventions of Byma et al. and Spengler are previously disclosed. Both are silent with respect to teaching the fiber mat with a polyolefin powder as claimed.

28. Smith et al. teach fiber reinforced thermoplastic molded products and sheets having glossy surface (see Abstract). The invention of Smith et al. relates to automobiles (see Abstract and Column 5, lines 34-36). Smith et al. disclose a smooth, glossy finished fiber reinforced thermoplastic prepreg materials composed of reinforcement fibers impregnated with and surrounded by thermoplastic fibers (Column 1, lines 42-46). Moreover, the products of Smith et al. are well adapted to serve as structural products because of their relatively high degree of reinforcement (Column 4,

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lines 64-67). Smith et al. disclose thermoplastic powder that is supplemented with the blend of thermoplastic fibers (Column 5, line 3) that make the prepreg material.

Although, Smith et al. do not explicitly teach polyolefin powder, it is obvious that polyolefin can be used as thermoplastic powder because polyolefin is a thermoplastic material.

29. Regarding claim 5, a skilled artisan would have found it obvious to use polyolefin powder added fiber reinforced prepreg material as a fiber mat in the reinforcing layer of Byma et al. One would be motivated to do this, in order to provide a stronger reinforcing layer that can provide sufficient strength and durability to the unitary composite headliner of Byma et al.

30. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byma et al. (US Patent Application Publication 2001/0037854A1) in view of Spengler (US Patent 6,287,678B1) and further in view of Brant et al. (US Patent 4,741,945).

31. The inventions of Byma et al. and Spengler are previously disclosed. Both are silent with respect to teaching the polyester mat.

32. The invention of Brant et al. is directed towards trim panels commonly used to cover interior surfaces of automobiles vehicles such as headliners (Column 1, lines 5-10). According to Brant et al., the trim panel 10 is a laminar arrangement or a semi flexible support layer 14, comprising, a thermoplastic foam core layer 16 interposed between and bonded to sheets or films 18 and 20 of the same or different thermoplastic polymer (Column 3, lines 1-6). Moreover, the sheets 18 and 20 can include polyester

fiber mats (Column 3, lines 61-62). Additionally, Brant et al. teaches that the sheets or films 18 and 20 have higher impact resistance than the foam core material.

33. Thus a skilled artisan would have found it obvious to use polyester mats of Brant et al. as a reinforcing layer of Byma et al. One would be motivated to do this, in order to provide a headliner with higher impact resistant characteristics.

34. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byma et al. (US Patent Application Publication 2001/0037854A1) in view of Spengler (US 6,287,678B1) and further in view of Juriga (US Patent 5,565,259).

35. The inventions of Byma et al. and Spengler are previously disclosed. Both are silent with respect to teaching the claimed adhesive fleece mat.

36. Juriga discloses laminates that are suitable for use as a vehicle headliner etc. (Column 1, lines 15-21). The laminates include a finish lamina and a substrate lamina comprising a flexible foam lamina and multiple supporting scrim laminae. In a preferred embodiment, thin flexible adhesive webs located between the laminae bond the laminae together forming a structurally stable, self-supporting laminate (Column 1, lines 21-26). Additionally, Juriga teaches that the adhesive web is lightweight and extremely thin, yet provide a strong bond between laminae. This adhesive web has advantage relative to other adhesive sheets known in the art because it provides structural stability to the laminate without addition excessive weight to the laminate (Column 3, lines 3-9).

37. Regarding claim 18, a skilled artisan would have found it obvious to use adhesive web of Juriga and used it to bond the cover member and the reinforcing layer of a unitary composite headliner of Byma et al. One would be motivated to do this, in order

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to provide strong adhesive bonding between the cover member and reinforcing layer of Byma et al.

Conclusion

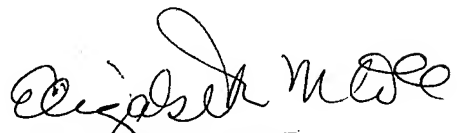
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anish Desai whose telephone number is 571-272-6467.

The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

apd


ELIZABETH M. COLE
PRIMARY EXAMINER